The Phield Project

Public Health Integration & Exchange of Lab Data

Computerized Filtering of Reportable Conditions

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Background: Nebraska Lab Interfacing

- The Nebraska Public Health Lab is located at the University of Nebraska Medical Center

- The difficulty of handling multiple paper reports led to a search for solutions to reporting from the Public Health Lab Information System

- Availability and access to IT infrastructure and expertise

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Background: Nebraska Lab Interfacing

- Pilot project for web-based lead reporting
  - Begun in 1998
  - Utilized Misys Sunquest LIS and Cloverleaf Interface
  - Incorporated outbound interface for ALL lead results
  - First experience with interfacing from the LIS

- 2001 - began project for web-based ordering AND reporting for all public health program areas
  - Led to more complex interfacing
  - Pointed out need to move away from proprietary commercial interface solution

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2002 - First NEDSS components installed
This was the starting gun for Nebraska ELR

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- How will lab messages get from our clinical lab systems into NEDSS?

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The Case for Automated Reporting

Effler et al, 1998, JAMA Hawaii:

- Found to provide a greater than two-fold increase in reports

- Electronic reports arrived an average of nearly four days earlier

- Estimated completeness of electronic reporting was 80% vs. 38% for the conventional system

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The Case for Automated Reporting

From the clinical laboratory perspective:

- 80,000 individual lab messages per week
- Reporting compliance burden is large
- Other potential benefits:
    - Hospital Infection control
    - Research
    - Specialized reporting used in patient care

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Requirements: Cheap & Easy

- Deployable on a single server for under $5000
- Configurable and accessible to local lab personnel
- Not involve IT programmers after implementation
- Deployable in multiple environments
  - Windows
  - Linux
  - Macintosh

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- An open source, computerized system that employs configurable, rule-based filter capabilities to identify reportable conditions

- Focused on cost effective solution to delivering laboratory data of public health significance to the appropriate legal jurisdictions.

- Developed collaboratively with the Nebraska Department of Health, Nebraska Public Health Lab and the University of Nebraska Medical Center
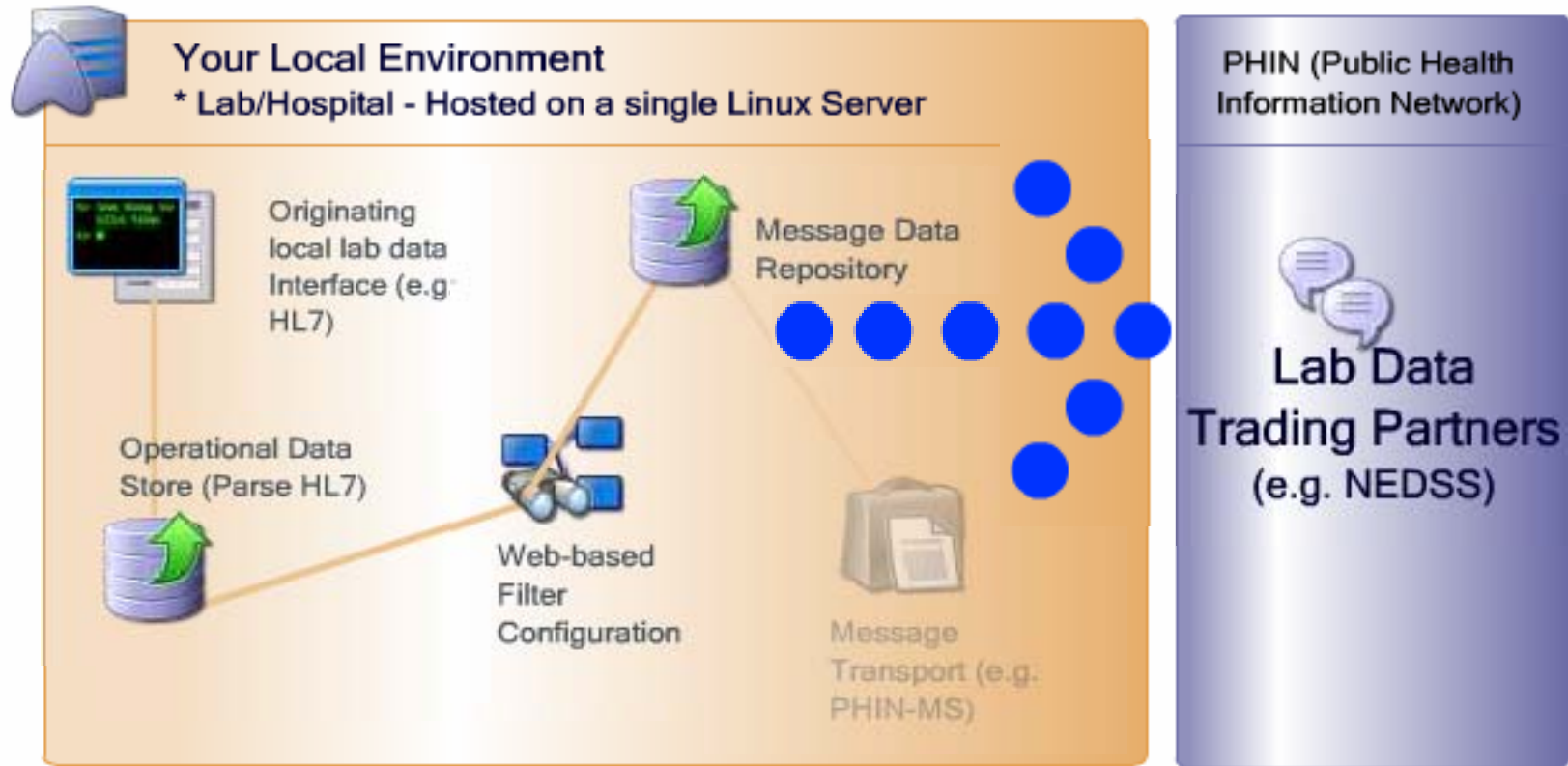
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Phield Open Source Model

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Admin : Filter Profile : WEST NILE IgM, CSF [Mode:Prod]

Back

Edit Filter Profile for: **WEST NILE IgM, CSF** [Mode:Prod]

Filter Profile Description

WEST NILE IgM, CSF

⦿ Production   ◯ Test

Parent Filter Profile

West Nile meningitis

Subprofiles of this Filter Profile:
 ▪ N/A

- IF -

Receiving Application (MSH.5)
☐ Labcorp (NEDOH)
☑ Nebraska Public Health Lab (NPHL)
☑ Med Center Phamis System (PHAMIS)

- AND -

Ordered Test Code (OBR.4.1)   Ordered Alt Test Code (OBR.4.4)

WNIGMC   - OR -

- AND -

OBR.26.1

Add Specimen Source Parameter

Specimen Source Code (OBR.15.1)

- AND -

Resulted Test Code (OBX.3.1)   Resulted Alt Test Code (OBX.3.4)

                              - OR -

- AND -

OBX.5.1 Match Criteria:

☑ *greater_than* '**1.1**'

Relational Operator   Test Result Value (OBX.5.1)

- THEN -

Mapped LOINC Test Code (OBX.3.1)   Mapped LOINC Test Text (OBX.3.2)

29538-6   WEST NILE VIRUS AB.IGM

Mapped SNOMED Code (OBX.5.1)   Mapped SNOMED Text (OBX.5.2)

L-32368   West Nile virus (organism)

Comments

[Update] [Test] [Delete] [Create Duplicate]

Message Filter, Transform & Log

Rule Based Message Filtering

- Receiving Application (MSH.5)
- Ordered Test Code (OBR.4.1)
- Resulted Test Code (OBX.3.1)
- Test Result Value (OBX.5.1)
    - Is exactly / Is exactly not
    - Contains / Does not contain
    - Is greater / less than
    - Is above / below / within reference range

Message Filter, Transform & Log

Message Transformation

1) Version translation
2) Correction of invalid HL7
3) Standard encoding (LOINC & SNOMED)
4) Data enhancement (e.g. ordering provider demographic information)

- ## Log and audit reporting
  - ### Assure accuracy and system integrity
  - ### Adhere to various compliance regulations
    - Example: The HIPAA Privacy Rule requires covered healthcare entities to maintain and produce an accounting of all disclosures of patient information (e.g. Lab results). There are exceptions but, according to the CDC, an accounting is usually required for public health disclosures.

    http://www.cdc.gov/mmwr/preview/mmwrhtml/m2e411at.htm

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To Open Source or Not

- Continued development
- Maintenance
- Cost

- License: Academic Free

Contact Information

Phield Project Web Site:

http://www.phield.org

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